

API-03-03-PCT-US SeqList-61510.ST25  
SEQUENCE LISTING

<110> Bernstein, Neil  
Gallichan, Scott  
Lovitt, Corey  
Parrington, Mark  
Pedyczak, Artur  
Radvanyi, Laszlo  
Singh-Sandhu, Devender

<120> Tumor Antigens BFA5 for Prevention and/or Treatment of Cancer

<130> API-03-03-PCT-US

<140> US 10/553,137

<141> 2004-04-15

<150> PCT/IB2004/001701

<151> 2004-04-15

<150> US 60/462,945

<151> 2003-04-15

<160> 105

<170> PatentIn version 3.2

<210> 1

<211> 3846

<212> DNA (BFA4 cDNA)

<213> Homo sapiens

<400> 1  
atggtccgga aaaagaaccc ccctctgaga aacgttgaa gtgaaggcga gggccagatc 60  
ctggagccta taggtacaga aagcaaggta tctggaaaga acaaagaatt ctctgcagat 120  
cagatgtcag aaaatacgga tcagagtgtat gctgcagaac taaatcataa ggaggaacat 180  
agcttgcattt ttcaagatcc atcttcttagc agtaagaagg acttgaaaag cgcatgtctg 240  
agtgagaagg ctggcttcaa ttatgaaagc cccagtaagg gagaaactt tccctccccc 300  
ccgcatgtatc aggtgacaga cagaaatatg ttggctttct catttcagc tgctggggga 360  
gtctgtgagc ctttgcgttc tccgaaaga gcagaggcag atgaccctca agatatggcc 420  
tgcacccctt cagggactc actggagaca aaggaagatc agaagatgtc accaaaggct 480  
acagagaaaa cagggcaagc acagagtggt caagccaatt gtcaagggtt gagcccagtt 540  
tcagttggcct caaaaaaccc acaagtgcct tcagatgggg gtgtaaactt gaataaatcc 600  
aaaactgact tactggtgaa tgacaacccca gacccggcac ctctgtctcc agagcttcag 660  
gactttaaat gcaatatctg tggatatggt tactacggca acgaccccac agatctgatt 720  
aagcacttcc gaaagtatca cttaggactg cataaccgca ccaggcaaga tgctgagctg 780  
gacagcaaaa tcttggccct tcataacatg gtgcagttca gccattccaa agacttccag 840

API-03-03-PCT-US SeqList-61510.ST25

|             |             |            |             |            |             |      |
|-------------|-------------|------------|-------------|------------|-------------|------|
| aaggtaacc   | gttctgttt   | ttctggtgt  | ctgcaggaca  | tcaattcttc | aaggccgtt   | 900  |
| ttactaaatg  | ggacctatga  | tgtcaggtg  | acttcaggtg  | gaacattcat | tggcattgga  | 960  |
| cggaaaacac  | cagattgcca  | agggAACACC | aagtattcc   | gctgtaaatt | ctgcaatttc  | 1020 |
| acttatatgg  | gcaactcatc  | caccgaatta | gaacaacatt  | ttcttcagac | tcacccaaac  | 1080 |
| aaaataaaag  | tttctctccc  | ctccctcgag | gttgcaaaac  | cttcagagaa | aaactctaac  | 1140 |
| aagtccatcc  | ctgcacttca  | atccagtat  | tctggagact  | tggaaaaatg | gcaggacaag  | 1200 |
| ataacagtca  | aagcaggaga  | tgacactcct | gttgggtact  | cagtccccat | aaagccccctc | 1260 |
| gattcctcta  | gacaaaatgg  | tacagaggcc | accagttact  | actgggttaa | atttttagt   | 1320 |
| ttcagctgt   | agtcatctag  | ctcacttaaa | ctgctagaac  | attatggcaa | gcagcacgga  | 1380 |
| gcagtcagt   | caggcggcct  | taatccagag | ttaaatgata  | agctttccag | gggctctgtc  | 1440 |
| attaatcaga  | atgatctagc  | caaaagttca | gaaggagaga  | caatgaccaa | gacagacaag  | 1500 |
| agctcgagt   | gggctaaaaaa | gaaggacttc | tccagcaagg  | gagccgagga | taatatggta  | 1560 |
| acgagctata  | attgtcagtt  | ctgtgacttc | cgatattcca  | aaagccatgg | ccctgtatgt  | 1620 |
| attgtagtgg  | ggccacttct  | ccgtcattat | caacagctcc  | ataacattca | caagtgtacc  | 1680 |
| attaaacact  | gtccattctg  | tcccagagga | ctttgcagcc  | cagaaaagca | ccttggagaa  | 1740 |
| attacttatac | cgtttgcttg  | tagaaaaagt | aattgttccc  | actgtgact  | cttgcttctg  | 1800 |
| cacttgtctc  | ctggggcggc  | tggaagctcg | cgagtcaaacc | atcagtgc   | tcagtgttca  | 1860 |
| ttcaccaccc  | ctgacgtaga  | tgtactcctc | tttcactatg  | aaagtgtgca | tgagtcccaa  | 1920 |
| gcatcgatg   | tcaaacaaga  | agcaaatac  | ctgcaaggat  | cggatggca  | gcagtcgtc   | 1980 |
| aaggaaagca  | aagaacactc  | atgtaccaaa | tgtgatttt   | ttacccaagt | ggaagaagag  | 2040 |
| atttcccgac  | actacaggag  | agcacacagc | tgctacaaat  | gccgtcagt  | cagttttaca  | 2100 |
| gctgccata   | ctcagtcact  | actggagcac | ttcaacactg  | ttcactgcca | ggaacaggac  | 2160 |
| atcactacag  | ccaacggcga  | agaggacggt | catgccatat  | ccaccatcaa | agaggagccc  | 2220 |
| aaaattgact  | tcaagggtcta | caatctgcta | actccagact  | ctaaaatggg | agagccagtt  | 2280 |
| tctgagagt   | tggtaagag   | agagaagctg | gaagagaagg  | acgggctcaa | agagaaagtt  | 2340 |
| tggaccgaga  | gttccagtga  | tgaccttcgc | aatgtgactt  | ggagaggggc | agacatcctg  | 2400 |
| cggggagtc   | cgtcatacac  | ccaagcaagc | ctggggctgc  | tgacgcctgt | gtctggcacc  | 2460 |
| caagagcaga  | caaagactct  | aaggatagt  | cccaatgtgg  | aggccgcccc | tctggcgcga  | 2520 |
| cctatttatg  | gcttggctgt  | ggaaaccaag | ggattcctgc  | agggggcgcc | agctggcgga  | 2580 |
| gagaagtctg  | ggccctccc   | ccagcagtat | cctgcatcg   | gagaaaacaa | gtccaaggat  | 2640 |
| gaatcccagt  | ccctgttacg  | gaggcgtaga | ggctccggtg  | tttttgc    | caattgcctg  | 2700 |
| accacaaaga  | cctctctctg  | gcgaaagaat | gcaaatggcg  | gatatgtatg | caacgcgtgt  | 2760 |

API-03-03-PCT-US SeqList-61510.ST25

|   |      |
|---|------|
| ggcctctacc agaagttca ctcgactccc aggccattaa acatcattaa acaaaaacaac     | 2820 |
| ggtgagcaga ttattaggag gagaacaaga aagcgcccta acccagaggc acttcaggct     | 2880 |
| gaggcagctca acaaacagca gaggggcagc aatgaggagc aagtcaatgg aagcccgta     | 2940 |
| gagaggaggt cagaagatca tcttaactgaa agtcaccaga gagaattcc actccccagc     | 3000 |
| ctaaatgaaat acgaagccca gggttcattt actaaaagcc attctgctca gcagccagtc    | 3060 |
| ctggtcagcc aaactctgga tattcacaaa agatgcaac cttgcacat tcagataaaa       | 3120 |
| agtccctcagg aaagtactgg agatccagga aatagttcat ccgtatctga agggaaagga    | 3180 |
| agttctgaga gaggcagtcc tatagaaaag tacatgagac ctgcgaaaca cccaaattat     | 3240 |
| tcaccaccag gcagccctat tgaaaagtac cagtaccac ttttgact tccctttgtt        | 3300 |
| cataatgact tccagagtga agctgattgg ctgcggttct ggagtaata taagctctcc      | 3360 |
| gttccctggga atccgcacta cttgagtcac gtgcctggcc taccaaattcc ttgccaaac    | 3420 |
| tatgtgcctt atcccacctt caatctgcct cctcattttt cagctgttgg atcagacaat     | 3480 |
| gacattccctc tagatttggc gatcaagcat tccagacctg ggccaactgc aaacggtgcc    | 3540 |
| tccaaaggaga aaacgaaggc accaccaaattt gtaaaaaatg aaggtccctt gaatgttagta | 3600 |
| aaaacagaga aagttgataa aagtactcaa gatgaacttt caacaaaatg tgtgcactgt     | 3660 |
| ggcatttgtct ttctggatga agtcatgtat gctttgcata tgagttgcca tggtgacagt    | 3720 |
| ggacctttcc agtgcagcat atgcagcat cttgcacgg acaaataatga cttcacaaca      | 3780 |
| catatccaga gggcctgca taggaacaat gcacaagtgg aaaaaatgg aaaacctaaa       | 3840 |
| gagtaa  | 3846 |

<210> 2  
<211> 1281  
<212> PRT (BFA4 aa)  
<213> Homo sapiens

<400> 2

Met Val Arg Lys Lys Asn Pro Pro Leu Arg Asn Val Ala Ser Glu Gly  
1 5 10 15

Glu Gly Gln Ile Leu Glu Pro Ile Gly Thr Glu Ser Lys Val Ser Gly  
20 25 30

Lys Asn Lys Glu Phe Ser Ala Asp Gln Met Ser Glu Asn Thr Asp Gln  
35 40 45

Ser Asp Ala Ala Glu Leu Asn His Lys Glu Glu His Ser Leu His Val  
50 55 60

## API-03-03-PCT-US SeqList-61510.ST25

Gln Asp Pro Ser Ser Ser Lys Lys Asp Leu Lys Ser Ala Val Leu  
 65 70 75 80

Ser Glu Lys Ala Gly Phe Asn Tyr Glu Ser Pro Ser Lys Gly Gly Asn  
 85 90 95

Phe Pro Ser Phe Pro His Asp Glu Val Thr Asp Arg Asn Met Leu Ala  
 100 105 110

Phe Ser Phe Pro Ala Ala Gly Gly Val Cys Glu Pro Leu Lys Ser Pro  
 115 120 125

Gln Arg Ala Glu Ala Asp Asp Pro Gln Asp Met Ala Cys Thr Pro Ser  
 130 135 140

Gly Asp Ser Leu Glu Thr Lys Glu Asp Gln Lys Met Ser Pro Lys Ala  
 145 150 155 160

Thr Glu Glu Thr Gly Gln Ala Gln Ser Gly Gln Ala Asn Cys Gln Gly  
 165 170 175

Leu Ser Pro Val Ser Val Ala Ser Lys Asn Pro Gln Val Pro Ser Asp  
 180 185 190

Gly Gly Val Arg Leu Asn Lys Ser Lys Thr Asp Leu Leu Val Asn Asp  
 195 200 205

Asn Pro Asp Pro Ala Pro Leu Ser Pro Glu Leu Gln Asp Phe Lys Cys  
 210 215 220

Asn Ile Cys Gly Tyr Gly Tyr Gly Asn Asp Pro Thr Asp Leu Ile  
 225 230 235 240

Lys His Phe Arg Lys Tyr His Leu Gly Leu His Asn Arg Thr Arg Gln  
 245 250 255

Asp Ala Glu Leu Asp Ser Lys Ile Leu Ala Leu His Asn Met Val Gln  
 260 265 270

Phe Ser His Ser Lys Asp Phe Gln Lys Val Asn Arg Ser Val Phe Ser  
 275 280 285

Gly Val Leu Gln Asp Ile Asn Ser Ser Arg Pro Val Leu Leu Asn Gly  
 290 295 300

Thr Tyr Asp Val Gln Val Thr Ser Gly Gly Thr Phe Ile Gly Ile Gly  
 305 310 315 320

API-03-03-PCT-US SeqList-61510.ST25

Arg Lys Thr Pro Asp Cys Gln Gly Asn Thr Lys Tyr Phe Arg Cys Lys  
325 330 335

Phe Cys Asn Phe Thr Tyr Met Gly Asn Ser Ser Thr Glu Leu Glu Gln  
340 345 350

His Phe Leu Gln Thr His Pro Asn Lys Ile Lys Ala Ser Leu Pro Ser  
355 360 365

Ser Glu Val Ala Lys Pro Ser Glu Lys Asn Ser Asn Lys Ser Ile Pro  
370 375 380

Ala Leu Gln Ser Ser Asp Ser Gly Asp Leu Gly Lys Trp Gln Asp Lys  
385 390 395 400

Ile Thr Val Lys Ala Gly Asp Asp Thr Pro Val Gly Tyr Ser Val Pro  
405 410 415

Ile Lys Pro Leu Asp Ser Ser Arg Gln Asn Gly Thr Glu Ala Thr Ser  
420 425 430

Tyr Tyr Trp Cys Lys Phe Cys Ser Phe Ser Cys Glu Ser Ser Ser Ser  
435 440 445

Leu Lys Leu Leu Glu His Tyr Gly Lys Gln His Gly Ala Val Gln Ser  
450 455 460

Gly Gly Leu Asn Pro Glu Leu Asn Asp Lys Leu Ser Arg Gly Ser Val  
465 470 475 480

Ile Asn Gln Asn Asp Leu Ala Lys Ser Ser Glu Gly Glu Thr Met Thr  
485 490 495

Lys Thr Asp Lys Ser Ser Ser Gly Ala Lys Lys Lys Asp Phe Ser Ser  
500 505 510

Lys Gly Ala Glu Asp Asn Met Val Thr Ser Tyr Asn Cys Gln Phe Cys  
515 520 525

Asp Phe Arg Tyr Ser Lys Ser His Gly Pro Asp Val Ile Val Val Gly  
530 535 540

Pro Leu Leu Arg His Tyr Gln Gln Leu His Asn Ile His Lys Cys Thr  
545 550 555 560

Ile Lys His Cys Pro Phe Cys Pro Arg Gly Leu Cys Ser Pro Glu Lys  
565 570 575

API-03-03-PCT-US SeqList-61510.ST25

His Leu Gly Glu Ile Thr Tyr Pro Phe Ala Cys Arg Lys Ser Asn Cys  
580 585 590

Ser His Cys Ala Leu Leu Leu His Leu Ser Pro Gly Ala Ala Gly  
595 600 605

Ser Ser Arg Val Lys His Gln Cys His Gln Cys Ser Phe Thr Thr Pro  
610 615 620

Asp Val Asp Val Leu Leu Phe His Tyr Glu Ser Val His Glu Ser Gln  
625 630 635 640

Ala Ser Asp Val Lys Gln Glu Ala Asn His Leu Gln Gly Ser Asp Gly  
645 650 655

Gln Gln Ser Val Lys Glu Ser Lys Glu His Ser Cys Thr Lys Cys Asp  
660 665 670

Phe Ile Thr Gln Val Glu Glu Ile Ser Arg His Tyr Arg Arg Ala  
675 680 685

His Ser Cys Tyr Lys Cys Arg Gln Cys Ser Phe Thr Ala Ala Asp Thr  
690 695 700

Gln Ser Leu Leu Glu His Phe Asn Thr Val His Cys Gln Glu Gln Asp  
705 710 715 720

Ile Thr Thr Ala Asn Gly Glu Glu Asp Gly His Ala Ile Ser Thr Ile  
725 730 735

Lys Glu Glu Pro Lys Ile Asp Phe Arg Val Tyr Asn Leu Leu Thr Pro  
740 745 750

Asp Ser Lys Met Gly Glu Pro Val Ser Glu Ser Val Val Lys Arg Glu  
755 760 765

Lys Leu Glu Glu Lys Asp Gly Leu Lys Glu Lys Val Trp Thr Glu Ser  
770 775 780

Ser Ser Asp Asp Leu Arg Asn Val Thr Trp Arg Gly Ala Asp Ile Leu  
785 790 795 800

Arg Gly Ser Pro Ser Tyr Thr Gln Ala Ser Leu Gly Leu Leu Thr Pro  
805 810 815

Val Ser Gly Thr Gln Glu Gln Thr Lys Thr Leu Arg Asp Ser Pro Asn

820

825

830

Val Glu Ala Ala His Leu Ala Arg Pro Ile Tyr Gly Leu Ala Val Glu  
835 840 845

Thr Lys Gly Phe Leu Gln Gly Ala Pro Ala Gly Gly Glu Lys Ser Gly  
850 855 860

Ala Leu Pro Gln Gln Tyr Pro Ala Ser Gly Glu Asn Lys Ser Lys Asp  
865 870 875 880

Glu Ser Gln Ser Leu Leu Arg Arg Arg Gly Ser Gly Val Phe Cys  
885 890 895

Ala Asn Cys Leu Thr Thr Lys Thr Ser Leu Trp Arg Lys Asn Ala Asn  
900 905 910

Gly Gly Tyr Val Cys Asn Ala Cys Gly Leu Tyr Gln Lys Leu His Ser  
915 920 925

Thr Pro Arg Pro Leu Asn Ile Ile Lys Gln Asn Asn Gly Glu Gln Ile  
930 935 940

Ile Arg Arg Arg Thr Arg Lys Arg Leu Asn Pro Glu Ala Leu Gln Ala  
945 950 955 960

Glu Gln Leu Asn Lys Gln Gln Arg Gly Ser Asn Glu Glu Gln Val Asn  
965 970 975

Gly Ser Pro Leu Glu Arg Arg Ser Glu Asp His Leu Thr Glu Ser His  
980 985 990

Gln Arg Glu Ile Pro Leu Pro Ser Leu Ser Lys Tyr Glu Ala Gln Gly  
995 1000 1005

Ser Leu Thr Lys Ser His Ser Ala Gln Gln Pro Val Leu Val Ser  
1010 1015 1020

Gln Thr Leu Asp Ile His Lys Arg Met Gln Pro Leu His Ile Gln  
1025 1030 1035

Ile Lys Ser Pro Gln Glu Ser Thr Gly Asp Pro Gly Asn Ser Ser  
1040 1045 1050

Ser Val Ser Glu Gly Lys Gly Ser Ser Glu Arg Gly Ser Pro Ile  
1055 1060 1065

## API-03-03-PCT-US SeqList-61510.ST25

Glu Lys Tyr Met Arg Pro Ala Lys His Pro Asn Tyr Ser Pro Pro  
 1070 1075 1080

Gly Ser Pro Ile Glu Lys Tyr Gln Tyr Pro Leu Phe Gly Leu Pro  
 1085 1090 1095

Phe Val His Asn Asp Phe Gln Ser Glu Ala Asp Trp Leu Arg Phe  
 1100 1105 1110

Trp Ser Lys Tyr Lys Leu Ser Val Pro Gly Asn Pro His Tyr Leu  
 1115 1120 1125

Ser His Val Pro Gly Leu Pro Asn Pro Cys Gln Asn Tyr Val Pro  
 1130 1135 1140

Tyr Pro Thr Phe Asn Leu Pro Pro His Phe Ser Ala Val Gly Ser  
 1145 1150 1155

Asp Asn Asp Ile Pro Leu Asp Leu Ala Ile Lys His Ser Arg Pro  
 1160 1165 1170

Gly Pro Thr Ala Asn Gly Ala Ser Lys Glu Lys Thr Lys Ala Pro  
 1175 1180 1185

Pro Asn Val Lys Asn Glu Gly Pro Leu Asn Val Val Lys Thr Glu  
 1190 1195 1200

Lys Val Asp Arg Ser Thr Gln Asp Glu Leu Ser Thr Lys Cys Val  
 1205 1210 1215

His Cys Gly Ile Val Phe Leu Asp Glu Val Met Tyr Ala Leu His  
 1220 1225 1230

Met Ser Cys His Gly Asp Ser Gly Pro Phe Gln Cys Ser Ile Cys  
 1235 1240 1245

Gln His Leu Cys Thr Asp Lys Tyr Asp Phe Thr Thr His Ile Gln  
 1250 1255 1260

Arg Gly Leu His Arg Asn Asn Ala Gln Val Glu Lys Asn Gly Lys  
 1265 1270 1275

Pro Lys Glu  
 1280

<210> 3  
<211> 1203  
<212> DNA (BCY1 cDNA)

&lt;213&gt; Homo sapiens

&lt;400&gt; 3

|             |             |             |            |            |             |      |
|-------------|-------------|-------------|------------|------------|-------------|------|
| atggccgagc  | tgcgcctgaa  | gggcagcagc  | aacaccacgg | agtgtgttcc | cgtccccacc  | 60   |
| tccgagcacg  | tggccgagat  | cgtggcagg   | caaggctgca | agattaaggc | ctttagggcc  | 120  |
| aagaccaaca  | cctacatcaa  | gacaccggtg  | agggcgagg  | aaccagtgtt | catggtgaca  | 180  |
| gggcgacggg  | aggacgtggc  | cacagcccgg  | cgggaaatca | tctcagcagc | ggagcacttc  | 240  |
| tccatgatcc  | gtgcctcccg  | caacaagtca  | ggcgcgcct  | tttgtgtggc | tccgtctcg   | 300  |
| cccggccagg  | tgaccatccg  | tgtgcgggtg  | ccctaccgcg | tggtgggct  | ggtgtggc    | 360  |
| cccaaagggg  | caaccatcaa  | gcgcattccag | cagcaaacca | acacatacat | tatcacacca  | 420  |
| agccgtgacc  | gcgacccgt   | gttcgagatc  | acgggtgcc  | caggcaacgt | ggagcgtgcg  | 480  |
| cgcgaggaga  | tcgagacgca  | catcgccgtg  | cgcactggca | agatcctcga | gtacaacaat  | 540  |
| gaaaacgact  | tcctggcggg  | gagccccgac  | gcagcaatcg | atagccgcta | ctccgacgccc | 600  |
| tggcgggtgc  | accagcccgg  | ctgcaagccc  | ctctccacct | tccggcagaa | cagectggc   | 660  |
| tgcacatggcg | agtgcggagt  | ggactctggc  | tttgaggccc | cacgcctggg | tgagcagggc  | 720  |
| ggggactttg  | gctacggcgg  | gtaccccttt  | ccgggctatg | gcgtgggcaa | gcaggatgtg  | 780  |
| tactacggcg  | tggccgagac  | tagccccccg  | ctgtggcgg  | gccaggagaa | cgccacgccc  | 840  |
| acctccgtgc  | tcttctcctc  | tgcctcctcc  | tcttcctcct | ttccgccaa  | ggcccgcgct  | 900  |
| ggccccccgg  | gcgcacacccg | ctccctgccc  | acttccgcgg | gaccggagct | ggccggactc  | 960  |
| ccgaggcgcc  | ccccgggaga  | gccgctccag  | ggcttctcta | aacttggtgg | ggcggcctg   | 1020 |
| cgaggccccg  | gcggcggggcg | ggattgcatg  | gtctgctttg | agagcgaagt | gactgccc    | 1080 |
| cttgcgcct   | gcggacacaa  | cctgttctgc  | atggagtgtg | cagtacgcat | ctgcgagagg  | 1140 |
| acggacccag  | agtgtcccgt  | ctgcccacatc | acagccgcgc | aagccatccg | aatattctcc  | 1200 |
| taa         |             |             |            |            |             | 1203 |

&lt;210&gt; 4

&lt;211&gt; 400

&lt;212&gt; PRT (BCY1 AA)

&lt;213&gt; Homo sapiens

&lt;400&gt; 4

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Glu | Leu | Arg | Leu | Lys | Gly | Ser | Ser | Asn | Thr | Thr | Glu | Cys | Val |
| 1   |     |     |     |     |     | 5   |     |     | 10  |     |     |     |     | 15  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Val | Pro | Thr | Ser | Glu | His | Val | Ala | Glu | Ile | Val | Gly | Arg | Gln | Gly |
|     |     |     |     |     |     |     | 20  |     | 25  |     |     |     | 30  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Lys | Ile | Lys | Ala | Leu | Arg | Ala | Lys | Thr | Asn | Thr | Tyr | Ile | Lys | Thr |
|     |     |     |     |     |     |     |     | 35  | 40  |     |     | 45  |     |     |     |

API-03-03-PCT-US SeqList-61510.ST25

Pro Val Arg Gly Glu Glu Pro Val Phe Met Val Thr Gly Arg Arg Glu  
50 55 60

Asp Val Ala Thr Ala Arg Arg Glu Ile Ile Ser Ala Ala Glu His Phe  
65 70 75 80

Ser Met Ile Arg Ala Ser Arg Asn Lys Ser Gly Ala Ala Phe Gly Val  
85 90 95

Ala Pro Ala Leu Pro Gly Gln Val Thr Ile Arg Val Arg Val Pro Tyr  
100 105 110

Arg Val Val Gly Leu Val Val Gly Pro Lys Gly Ala Thr Ile Lys Arg  
115 120 125

Ile Gln Gln Gln Thr Asn Thr Tyr Ile Ile Thr Pro Ser Arg Asp Arg  
130 135 140

Asp Pro Val Phe Glu Ile Thr Gly Ala Pro Gly Asn Val Glu Arg Ala  
145 150 155 160

Arg Glu Glu Ile Glu Thr His Ile Ala Val Arg Thr Gly Lys Ile Leu  
165 170 175

Glu Tyr Asn Asn Glu Asn Asp Phe Leu Ala Gly Ser Pro Asp Ala Ala  
180 185 190

Ile Asp Ser Arg Tyr Ser Asp Ala Trp Arg Val His Gln Pro Gly Cys  
195 200 205

Lys Pro Leu Ser Thr Phe Arg Gln Asn Ser Leu Gly Cys Ile Gly Glu  
210 215 220

Cys Gly Val Asp Ser Gly Phe Glu Ala Pro Arg Leu Gly Glu Gln Gly  
225 230 235 240

Gly Asp Phe Gly Tyr Gly Gly Tyr Leu Phe Pro Gly Tyr Gly Val Gly  
245 250 255

Lys Gln Asp Val Tyr Tyr Gly Val Ala Glu Thr Ser Pro Pro Leu Trp  
260 265 270

Ala Gly Gln Glu Asn Ala Thr Pro Thr Ser Val Leu Phe Ser Ser Ala  
275 280 285

Ser Ser Ser Ser Ser Ser Ala Lys Ala Arg Ala Gly Pro Pro Gly

API-03-03-PCT-US SeqList-61510.ST25  
290                    295                    300

Ala His Arg Ser Pro Ala Thr Ser Ala Gly Pro Glu Leu Ala Gly Leu  
305                    310                    315                    320

Pro Arg Arg Pro Pro Gly Glu Pro Leu Gln Gly Phe Ser Lys Leu Gly  
325                    330                    335

Gly Gly Gly Leu Arg Ser Pro Gly Gly Gly Arg Asp Cys Met Val Cys  
340                    345                    350

Phe Glu Ser Glu Val Thr Ala Ala Leu Val Pro Cys Gly His Asn Leu  
355                    360                    365

Phe Cys Met Glu Cys Ala Val Arg Ile Cys Glu Arg Thr Asp Pro Glu  
370                    375                    380

Cys Pro Val Cys His Ile Thr Ala Ala Gln Ala Ile Arg Ile Phe Ser  
385                    390                    395                    400

<210> 5  
<211> 4026  
<212> DNA (BFA5 DNA)  
<213> Homo sapiens

<400> 5  
atgacaaaaga ggaagaagac catcaacctt aatacacaag acggccagaa gaggactgct 60  
ctacactggg cctgtgtcaa tggccatgag gaagtagtaa catttctggg agacagaaaag 120  
tgccagcttg acgtccttga tggcgaacac aggacacctc tgatgaaggc tctacaatgc 180  
catcaggagg cttgtgcaaa tattctgata gattctggg ccgatataaa tctcgtagat 240  
gtgtatggca acatggctct ccattatgct gtttatagtg agatttgtc agtgggtggca 300  
aaactgctgt cccatgggtgc agtcatcgaa gtgcacaaca aggctagcct cacaccactt 360  
ttactatcca taacgaaaag aagttagcaa attgtggaaat ttgtgtgtat aaaaaatgca 420  
aatgcgaatg cagttataaa gtataaatgc acagccctca tgcttgcgt atgtcatgga 480  
tcatcagaga tagttggcat gcttcaggc caaatgtt acgtcttgc tgcagatata 540  
tgtggagtaa ctgcagaaca ttatgtgtt acttgtggat ttcatcacat tcatgaacaa 600  
attatggaaat atatacggaa attatctaaa aatcatcaaa ataccaatcc agaagggacaa 660  
tctgcaggaa cacctgatga ggctgcaccc ttggcgaaaa gaacacctga cacagctgaa 720  
agcttgggtgg aaaaaacacc tcatggggct gcacccttgg tggaaagaac acctgacacg 780  
gctgaaagct tggggaaaa aacacctgat gaggctgcat cttgggtgg gggAACATCT 840  
gacaaaaattc aatgtttgga gaaagcgaca tctggaaagt tcgaacagtc agcagaagaa 900  
acaccttaggg aaattacgag tcctgcaaaa gaaacatctg agaaatttac gtggccagca 960

## API-03-03-PCT-US SeqList-61510.ST25

|  |      |
|--|------|
| aaaggaagac ctaggaagat cgcatggag aaaaaagaag acacacctag ggaaattatg       | 1020 |
| agtcccgcaa aagaaacatc tgagaaattt acgtggcag caaaaggaag accttaggaag      | 1080 |
| atcgcatggg agaaaaaaga aacacctgta aagactggat gcgtggcaag agtaacatct      | 1140 |
| aataaaaacta aagtttgga aaaaggaaga tctaagatga ttgcattgtcc tacaaaagaa     | 1200 |
| tcatctacaa aagcaagtgc caatgatcag aggttcccat cagaatccaa acaagaggaa      | 1260 |
| gatgaagaat attcttgtga ttctcgagt ctcttgaga gttctgcaaa gattcaagtg        | 1320 |
| tgtataccctg agtcttatata tc当地aaatgtatc atggagataa atagagaagt agaagagcct | 1380 |
| cctaagaagc catctgcctt caagcctgcc attgaaatgc aaaactctgt tccaaataaa      | 1440 |
| gccttgaat tgaagaatga acaaaccattg agagcagatc cgatgttccc accagaatcc      | 1500 |
| aaacaaaagg actatgaaga aaattcttgg gattctgaga gtctctgtga gactgttca       | 1560 |
| cagaaggatg tgtgtttacc caaggctaca catcaaaaag aaatagataa aataaatgga      | 1620 |
| aaattagaag agtctcctaa taaagatggt cttctgaagg ctacctgcgg aatgaaaagtt     | 1680 |
| tctattccaa ctaaagccctt agaattgaag gacatgcaaa ctttcaaagc ggagcctccg     | 1740 |
| ggaaagccat ctgccttcga gcctgccact gaaatgcaaa agtctgtccc aaataaagcc      | 1800 |
| ttggaaattga aaaatgaaca aacatggaga gcagatgaga tactccatc agaatccaaa      | 1860 |
| caaaaaggact atgaagaaaa ttcttggat actgagagtc tctgtgagac tgttcacag       | 1920 |
| aaggatgtgt gtttacccaa ggctgcgcatt caaaaagaaaa tagataaaaat aaatggaaaa   | 1980 |
| ttagaagggt ctccgtttaa agatggctt ctgaaggcta actgcggaat gaaagttct        | 2040 |
| attccaacta aagccttaga attgatggac atgcaaactt tcaaagcaga gcctccgag       | 2100 |
| aagccatctg cttcgagcc tgccattgaa atgcaaaagt ctgttccaaa taaagccctg       | 2160 |
| gaattgaaga atgaacaaac attgagagca gatgagatac tcccatcaga atccaaacaa      | 2220 |
| aaggactatg aagaaagttc ttggattct gagagtctt gtgagactgt ttcacagaag        | 2280 |
| gatgtgtgtt tacccaaggc tacacatcaa aaagaaatag ataaaataaa tggaaaatta      | 2340 |
| gaagagtctc ctgataatga tggtttctg aaggctccct gcagaatgaa agtttctatt       | 2400 |
| ccaaactaaag ctttagaatt gatggacatg caaaacttca aagcagagcc tcccgagaag     | 2460 |
| ccatctgcct tcgagcctgc cattgaaatg caaaaagtctg ttccaaataa agccttggaa     | 2520 |
| ttgaagaatg aacaaacatt gagagcagat cagatgttcc cttcagaatc aaaacaaaag      | 2580 |
| aaggttgaag aaaattcttgg gattctgag agtctccgtg agactgtttc acagaaggat      | 2640 |
| gtgtgtgtac ccaaggctac acatcaaaaa gaaatggata aaataagtgg aaaattagaa      | 2700 |
| gattcaacta gcctatcaa aatcttggat acagttcatt ctttgtgaaag agcaagggaa      | 2760 |
| cttcaaaaag atcactgtga acaacgtaca ggaaaaatgg aacaaatgaa aaagaagttt      | 2820 |

API-03-03-PCT-US SeqList-61510.ST25

|            |             |            |             |             |            |      |
|------------|-------------|------------|-------------|-------------|------------|------|
| tgtgtactga | aaaagaaaact | gtcagaagca | aaagaaaataa | aatcacagtt  | agagaaccaa | 2880 |
| aaagttaaat | gggaacaaga  | gctctgcagt | gtgagattga  | ctttaaacca  | agaagaagag | 2940 |
| aagagaagaa | atgccgatat  | attaaatgaa | aaaatttaggg | aagaatttagg | aagaatcgaa | 3000 |
| gagcagcata | ggaaagagtt  | agaagtgaaa | caacaacttg  | aacaggctct  | cagaatacaa | 3060 |
| gatatagaat | tgaagagtgt  | agaaagtaat | ttgaatcagg  | tttctcacac  | tcatgaaaat | 3120 |
| gaaaattatc | tcttacatga  | aaattgcatt | ttgaaaaagg  | aaattgccat  | gctaaaactg | 3180 |
| gaaatagcca | cactgaaaca  | ccaataccag | gaaaaggaaa  | ataaatactt  | tgaggacatt | 3240 |
| aagattttaa | aagaaaagaa  | tgctgaactt | cagatgaccc  | taaaaactgaa | agaggaatca | 3300 |
| ttaactaaaa | gggcatctca  | atatagtggg | cagcttaaag  | ttctgatagc  | tgagaacaca | 3360 |
| atgctcactr | ctaaattgaa  | gaaaaaaca  | gacaaagaaa  | tactagaggc  | agaaattgaa | 3420 |
| tcacaccatc | ctagactggc  | ttctgctgta | caagaccatg  | atcaaattgt  | gacatcaaga | 3480 |
| aaaagtcaag | aacctgcttt  | ccacattgca | ggagatgctt  | gttgcaaag   | aaaaatgaat | 3540 |
| gttgatgtga | gtagtagtat  | atataacaat | gaggtgctcc  | atcaaccact  | ttctgaagct | 3600 |
| caaaggaaat | ccaaaagcct  | aaaaattaat | ctcaattatg  | caggagatgc  | tctaagagaa | 3660 |
| aatacattgg | tttcagaaca  | tgcacaaaga | gaccaacgtg  | aaacacagtg  | tcaaattgaa | 3720 |
| gaagctgaac | acatgtatca  | aaacgaacaa | gataatgtga  | acaaacacac  | tgaacagcag | 3780 |
| gagtctctag | atcagaaaatt | atttcaacta | caaagcaaaa  | atatgtggct  | tcaacagcaa | 3840 |
| ttagttcatg | cacataagaa  | agctgacaac | aaaagcaaga  | taacaattga  | tattcatttt | 3900 |
| cttgagagga | aaatgcaaca  | tcatctccta | aaagagaaaa  | atgaggagat  | atthaattac | 3960 |
| aataaccatt | taaaaaaccg  | tatatatcaa | tatgaaaaag  | agaaagcaga  | aacagaaaac | 4020 |
| tcatga     |             |            |             |             |            | 4026 |

<210> 6  
<211> 1341  
<212> PRT (BFA5 AA)  
<213> Homo sapiens

<400> 6

Met Thr Lys Arg Lys Lys Thr Ile Asn Leu Asn Ile Gln Asp Ala Gln  
1 5 10 15

Lys Arg Thr Ala Leu His Trp Ala Cys Val Asn Gly His Glu Glu Val  
20 25 30

Val Thr Phe Leu Val Asp Arg Lys Cys Gln Leu Asp Val Leu Asp Gly  
35 40 45

Glu His Arg Thr Pro Leu Met Lys Ala Leu Gln Cys His Gln Glu Ala  
Page 13

API-03-03-PCT-US SeqList-61510.ST25  
50 55 60

Cys Ala Asn Ile Leu Ile Asp Ser Gly Ala Asp Ile Asn Leu Val Asp  
65 70 75 80

Val Tyr Gly Asn Met Ala Leu His Tyr Ala Val Tyr Ser Glu Ile Leu  
85 90 95

Ser Val Val Ala Lys Leu Leu Ser His Gly Ala Val Ile Glu Val His  
100 105 110

Asn Lys Ala Ser Leu Thr Pro Leu Leu Leu Ser Ile Thr Lys Arg Ser  
115 120 125

Glu Gln Ile Val Glu Phe Leu Leu Ile Lys Asn Ala Asn Ala Asn Ala  
130 135 140

Val Asn Lys Tyr Lys Cys Thr Ala Leu Met Leu Ala Val Cys His Gly  
145 150 155 160

Ser Ser Glu Ile Val Gly Met Leu Leu Gln Gln Asn Val Asp Val Phe  
165 170 175

Ala Ala Asp Ile Cys Gly Val Thr Ala Glu His Tyr Ala Val Thr Cys  
180 185 190

Gly Phe His His Ile His Glu Gln Ile Met Glu Tyr Ile Arg Lys Leu  
195 200 205

Ser Lys Asn His Gln Asn Thr Asn Pro Glu Gly Thr Ser Ala Gly Thr  
210 215 220

Pro Asp Glu Ala Ala Pro Leu Ala Glu Arg Thr Pro Asp Thr Ala Glu  
225 230 235 240

Ser Leu Val Glu Lys Thr Pro Asp Glu Ala Ala Pro Leu Val Glu Arg  
245 250 255

Thr Pro Asp Thr Ala Glu Ser Leu Val Glu Lys Thr Pro Asp Glu Ala  
260 265 270

Ala Ser Leu Val Glu Gly Thr Ser Asp Lys Ile Gln Cys Leu Glu Lys  
275 280 285

Ala Thr Ser Gly Lys Phe Glu Gln Ser Ala Glu Glu Thr Pro Arg Glu  
290 295 300

API-03-03-PCT-US SeqList-61510.ST25

Ile Thr Ser Pro Ala Lys Glu Thr Ser Glu Lys Phe Thr Trp Pro Ala  
305 310 315 320

Lys Gly Arg Pro Arg Lys Ile Ala Trp Glu Lys Lys Glu Asp Thr Pro  
325 330 335

Arg Glu Ile Met Ser Pro Ala Lys Glu Thr Ser Glu Lys Phe Thr Trp  
340 345 350

Ala Ala Lys Gly Arg Pro Arg Lys Ile Ala Trp Glu Lys Lys Glu Thr  
355 360 365

Pro Val Lys Thr Gly Cys Val Ala Arg Val Thr Ser Asn Lys Thr Lys  
370 375 380

Val Leu Glu Lys Gly Arg Ser Lys Met Ile Ala Cys Pro Thr Lys Glu  
385 390 395 400

Ser Ser Thr Lys Ala Ser Ala Asn Asp Gln Arg Phe Pro Ser Glu Ser  
405 410 415

Lys Gln Glu Glu Asp Glu Glu Tyr Ser Cys Asp Ser Arg Ser Leu Phe  
420 425 430

Glu Ser Ser Ala Lys Ile Gln Val Cys Ile Pro Glu Ser Ile Tyr Gln  
435 440 445

Lys Val Met Glu Ile Asn Arg Glu Val Glu Glu Pro Pro Lys Lys Pro  
450 455 460

Ser Ala Phe Lys Pro Ala Ile Glu Met Gln Asn Ser Val Pro Asn Lys  
465 470 475 480

Ala Phe Glu Leu Lys Asn Glu Gln Thr Leu Arg Ala Asp Pro Met Phe  
485 490 495

Pro Pro Glu Ser Lys Gln Lys Asp Tyr Glu Glu Asn Ser Trp Asp Ser  
500 505 510

Glu Ser Leu Cys Glu Thr Val Ser Gln Lys Asp Val Cys Leu Pro Lys  
515 520 525

Ala Thr His Gln Lys Glu Ile Asp Lys Ile Asn Gly Lys Leu Glu Glu  
530 535 540

Ser Pro Asn Lys Asp Gly Leu Leu Lys Ala Thr Cys Gly Met Lys Val  
545 550 555 560

API-03-03-PCT-US SeqList-61510.ST25

Ser Ile Pro Thr Lys Ala Leu Glu Leu Lys Asp Met Gln Thr Phe Lys  
565 570 575

Ala Glu Pro Pro Gly Lys Pro Ser Ala Phe Glu Pro Ala Thr Glu Met  
580 585 590

Gln Lys Ser Val Pro Asn Lys Ala Leu Glu Leu Lys Asn Glu Gln Thr  
595 600 605

Trp Arg Ala Asp Glu Ile Leu Pro Ser Glu Ser Lys Gln Lys Asp Tyr  
610 615 620

Glu Glu Asn Ser Trp Asp Thr Glu Ser Leu Cys Glu Thr Val Ser Gln  
625 630 635 640

Lys Asp Val Cys Leu Pro Lys Ala Ala His Gln Lys Glu Ile Asp Lys  
645 650 655

Ile Asn Gly Lys Leu Glu Gly Ser Pro Val Lys Asp Gly Leu Leu Lys  
660 665 670

Ala Asn Cys Gly Met Lys Val Ser Ile Pro Thr Lys Ala Leu Glu Leu  
675 680 685

Met Asp Met Gln Thr Phe Lys Ala Glu Pro Pro Glu Lys Pro Ser Ala  
690 695 700

Phe Glu Pro Ala Ile Glu Met Gln Lys Ser Val Pro Asn Lys Ala Leu  
705 710 715 720

Glu Leu Lys Asn Glu Gln Thr Leu Arg Ala Asp Glu Ile Leu Pro Ser  
725 730 735

Glu Ser Lys Gln Lys Asp Tyr Glu Glu Ser Ser Trp Asp Ser Glu Ser  
740 745 750

Leu Cys Glu Thr Val Ser Gln Lys Asp Val Cys Leu Pro Lys Ala Thr  
755 760 765

His Gln Lys Glu Ile Asp Lys Ile Asn Gly Lys Leu Glu Glu Ser Pro  
770 775 780

Asp Asn Asp Gly Phe Leu Lys Ala Pro Cys Arg Met Lys Val Ser Ile  
785 790 795 800

Pro Thr Lys Ala Leu Glu Leu Met Asp Met Gln Thr Phe Lys Ala Glu  
805 810 815

API-03-03-PCT-US SeqList-61510.ST25

Pro Pro Glu Lys Pro Ser Ala Phe Glu Pro Ala Ile Glu Met Gln Lys  
820 825 830

Ser Val Pro Asn Lys Ala Leu Glu Leu Lys Asn Glu Gln Thr Leu Arg  
835 840 845

Ala Asp Gln Met Phe Pro Ser Glu Ser Lys Gln Lys Lys Val Glu Glu  
850 855 860

Asn Ser Trp Asp Ser Glu Ser Leu Arg Glu Thr Val Ser Gln Lys Asp  
865 870 875 880

Val Cys Val Pro Lys Ala Thr His Gln Lys Glu Met Asp Lys Ile Ser  
885 890 895

Gly Lys Leu Glu Asp Ser Thr Ser Leu Ser Lys Ile Leu Asp Thr Val  
900 905 910

His Ser Cys Glu Arg Ala Arg Glu Leu Gln Lys Asp His Cys Glu Gln  
915 920 925

Arg Thr Gly Lys Met Glu Gln Met Lys Lys Phe Cys Val Leu Lys  
930 935 940

Lys Lys Leu Ser Glu Ala Lys Glu Ile Lys Ser Gln Leu Glu Asn Gln  
945 950 955 960

Lys Val Lys Trp Glu Gln Glu Leu Cys Ser Val Arg Leu Thr Leu Asn  
965 970 975

Gln Glu Glu Glu Lys Arg Arg Asn Ala Asp Ile Leu Asn Glu Lys Ile  
980 985 990

Arg Glu Glu Leu Gly Arg Ile Glu Glu Gln His Arg Lys Glu Leu Glu  
995 1000 1005

Val Lys Gln Gln Leu Glu Gln Ala Leu Arg Ile Gln Asp Ile Glu  
1010 1015 1020

Leu Lys Ser Val Glu Ser Asn Leu Asn Gln Val Ser His Thr His  
1025 1030 1035

Glu Asn Glu Asn Tyr Leu Leu His Glu Asn Cys Met Leu Lys Lys  
1040 1045 1050

Glu Ile Ala Met Leu Lys Leu Glu Ile Ala Thr Leu Lys His Gln

API-03-03-PCT-US SeqList-61510.ST25  
1055                    1060                    1065

Tyr Gln Glu Lys Glu Asn Lys Tyr Phe Glu Asp Ile Lys Ile Leu  
1070                    1075                    1080

Lys Glu Lys Asn Ala Glu Leu Gln Met Thr Leu Lys Leu Lys Glu  
1085                    1090                    1095

Glu Ser Leu Thr Lys Arg Ala Ser Gln Tyr Ser Gly Gln Leu Lys  
1100                    1105                    1110

Val Leu Ile Ala Glu Asn Thr Met Leu Thr Ser Lys Leu Lys Glu  
1115                    1120                    1125

Lys Gln Asp Lys Glu Ile Leu Glu Ala Glu Ile Glu Ser His His  
1130                    1135                    1140

Pro Arg Leu Ala Ser Ala Val Gln Asp His Asp Gln Ile Val Thr  
1145                    1150                    1155

Ser Arg Lys Ser Gln Glu Pro Ala Phe His Ile Ala Gly Asp Ala  
1160                    1165                    1170

Cys Leu Gln Arg Lys Met Asn Val Asp Val Ser Ser Thr Ile Tyr  
1175                    1180                    1185

Asn Asn Glu Val Leu His Gln Pro Leu Ser Glu Ala Gln Arg Lys  
1190                    1195                    1200

Ser Lys Ser Leu Lys Ile Asn Leu Asn Tyr Ala Gly Asp Ala Leu  
1205                    1210                    1215

Arg Glu Asn Thr Leu Val Ser Glu His Ala Gln Arg Asp Gln Arg  
1220                    1225                    1230

Glu Thr Gln Cys Gln Met Lys Glu Ala Glu His Met Tyr Gln Asn  
1235                    1240                    1245

Glu Gln Asp Asn Val Asn Lys His Thr Glu Gln Gln Glu Ser Leu  
1250                    1255                    1260

Asp Gln Lys Leu Phe Gln Leu Gln Ser Lys Asn Met Trp Leu Gln  
1265                    1270                    1275

Gln Gln Leu Val His Ala His Lys Lys Ala Asp Asn Lys Ser Lys  
1280                    1285                    1290

API-03-03-PCT-US SeqList-61510.ST25  
Ile Thr Ile Asp Ile His Phe Leu Glu Arg Lys Met Gln His His  
1295 1300 1305

Leu Leu Lys Glu Lys Asn Glu Glu Ile Phe Asn Tyr Asn Asn His  
1310 1315 1320

Leu Lys Asn Arg Ile Tyr Gln Tyr Glu Lys Glu Lys Ala Glu Thr  
1325 1330 1335

Glu Asn Ser  
1340

<210> 7  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 7

Leu Met Asp Met Gln Thr Phe Lys Ala  
1 5

<210> 8  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 8

Lys Val Ser Ile Pro Thr Lys Ala Leu  
1 5

<210> 9  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 9

Ser Ile Pro Thr Lys Ala Leu Glu Leu  
1 5

<210> 10  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 10

Leu Glu Leu Lys Asn Glu Gln Thr Leu  
1 5

<210> 11  
<211> 9  
<212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 11

Thr Val Ser Gln Lys Asp Val Cys Leu  
1 5

&lt;210&gt; 12

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 12

Ser Val Pro Asn Lys Ala Leu Glu Leu  
1 5

&lt;210&gt; 13

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 13

Cys Glu Thr Val Ser Gln Lys Asp Val  
1 5

&lt;210&gt; 14

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 14

Lys Ile Asn Gly Lys Leu Glu Glu Ser  
1 5

&lt;210&gt; 15

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 15

Ser Leu Val Glu Lys Thr Pro Asp Glu  
1 5

&lt;210&gt; 16

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 16

Ser Leu Cys Glu Thr Val Ser Gln Lys  
1 5

API-03-03-PCT-US SeqList-61510.ST25

<210> 17  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 17

Glu Ile Asp Lys Ile Asn Gly Lys Leu  
1 5

<210> 18  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 18

Met Leu Leu Gln Gln Asn Val Asp Val  
1 5

<210> 19  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 19

Asn Met Trp Leu Gln Gln Gln Leu Val  
1 5

<210> 20  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 20

Phe Leu Val Asp Arg Lys Cys Gln Leu  
1 5

<210> 21  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 21

Tyr Leu Leu His Glu Asn Cys Met Leu  
1 5

<210> 22  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 22

Ser Leu Phe Glu Ser Ser Ala Lys Ile

1 5

<210> 23  
<211> 9  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 23

Lys Ile Thr Ile Asp Ile His Phe Leu  
1 5

<210> 24  
<211> 9  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 24

Gln Leu Gln Ser Lys Asn Met Trp Leu  
1 5

<210> 25  
<211> 9  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 25

Ser Leu Asp Gln Lys Leu Phe Gln Leu  
1 5

<210> 26  
<211> 9  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 26

Phe Leu Leu Ile Lys Asn Ala Asn Ala  
1 5

<210> 27  
<211> 9  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 27

Lys Ile Leu Asp Thr Val His Ser Cys  
1 5

<210> 28  
<211> 9  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 28

Ser Leu Ser Lys Ile Leu Asp Thr Val  
1 5

&lt;210&gt; 29

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 29

Ile Leu Ile Asp Ser Gly Ala Asp Ile  
1 5

&lt;210&gt; 30

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 30

Lys Val Met Glu Ile Asn Arg Glu Val  
1 5

&lt;210&gt; 31

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 31

Lys Leu Leu Ser His Gly Ala Val Ile  
1 5

&lt;210&gt; 32

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 32

Ala Val Tyr Ser Glu Ile Leu Ser Val  
1 5

&lt;210&gt; 33

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 33

Lys Met Asn Val Asp Val Ser Ser Thr  
1 5

&lt;210&gt; 34

&lt;211&gt; 9

API-03-03-PCT-US SeqList-61510.ST25

<212> PRT  
<213> Homo sapiens

<400> 34

Ile Leu Ser Val Val Ala Lys Leu Leu  
1 5

<210> 35  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 35

Val Leu Ile Ala Glu Asn Thr Met Leu  
1 5

<210> 36  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 36

Lys Leu Ser Lys Asn His Gln Asn Thr  
1 5

<210> 37  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 37

Ser Leu Thr Pro Leu Leu Leu Ser Ile  
1 5

<210> 38  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 38

Ser Gln Tyr Ser Gly Gln Leu Lys Val  
1 5

<210> 39  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 39

Lys Glu Leu Glu Val Lys Gln Gln Leu  
1 5

<210> 40  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 40

Gln Ile Met Glu Tyr Ile Arg Lys Leu  
1 5

<210> 41  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 41

Ala Met Leu Lys Leu Glu Ile Ala Thr  
1 5

<210> 42  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 42

Val Leu His Gln Pro Leu Ser Glu Ala  
1 5

<210> 43  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 43

Gly Leu Leu Lys Ala Thr Cys Gly Met  
1 5

<210> 44  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 44

Gly Leu Leu Lys Ala Asn Cys Gly Met  
1 5

<210> 45  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 45

API-03-03-PCT-US SeqList-61510.ST25  
Gln Gln Leu Glu Gln Ala Leu Arg Ile  
1 5

<210> 46  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 46

Cys Met Leu Lys Lys Glu Ile Ala Met  
1 5

<210> 47  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 47

Glu Gln Met Lys Lys Lys Phe Cys Val  
1 5

<210> 48  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 48

Ile Gln Lys Ile Glu Leu Lys Ser Val  
1 5

<210> 49  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 49

Ser Val Pro Asn Lys Ala Phe Glu Leu  
1 5

<210> 50  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 50

Ser Ile Tyr Gln Lys Val Met Glu Ile  
1 5

<210> 51  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 51

Asn Leu Asn Tyr Ala Gly Asp Ala Leu  
1 5

<210> 52

<211> 9

<212> PRT

<213> Homo sapiens

<400> 52

Ala Val Gln Asp His Asp Gln Ile Val  
1 5

<210> 53

<211> 9

<212> PRT

<213> Homo sapiens

<400> 53

Phe Glu Ser Ser Ala Lys Ile Gln Val  
1 5

<210> 54

<211> 9

<212> PRT

<213> Homo sapiens

<400> 54

Gly Val Thr Ala Glu His Tyr Ala Val  
1 5

<210> 55

<211> 9

<212> PRT

<213> Homo sapiens

<400> 55

Arg Val Thr Ser Asn Lys Thr Lys Val  
1 5

<210> 56

<211> 9

<212> PRT

<213> Homo sapiens

<400> 56

Thr Val Ser Gln Lys Asp Val Cys Val  
1 5

<210> 57

API-03-03-PCT-US SeqList-61510.ST25

<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 57

Lys Ser Gln Glu Pro Ala Phe His Ile  
1 5

<210> 58  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 58

Lys Val Leu Ile Ala Glu Asn Thr Met  
1 5

<210> 59  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 59

Met Leu Lys Leu Glu Ile Ala Thr Leu  
1 5

<210> 60  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 60

Glu Ile Leu Ser Val Val Ala Lys Leu  
1 5

<210> 61  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 61

Met Leu Lys Lys Glu Ile Ala Met Leu  
1 5

<210> 62  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 62

Leu Leu Lys Glu Lys Asn Glu Glu Ile  
1 5

<210> 63  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 63

Ala Leu Arg Ile Gln Asp Ile Glu Leu  
1 5

<210> 64  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 64

Lys Ile Arg Glu Glu Leu Gly Arg Ile  
1 5

<210> 65  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 65

Thr Leu Lys Leu Lys Glu Glu Ser Leu  
1 5

<210> 66  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 66

Ile Leu Asn Glu Lys Ile Arg Glu Glu  
1 5

<210> 67  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 67

Val Leu Lys Lys Lys Leu Ser Glu Ala  
1 5

<210> 68  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 68

Gly Thr Ser Asp Lys Ile Gln Cys Leu  
1 5

<210> 69  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 69

Gly Ala Asp Ile Asn Leu Val Asp Val  
1 5

<210> 70  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 70

Glu Leu Cys Ser Val Arg Leu Thr Leu  
1 5

<210> 71  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 71

Ser Val Glu Ser Asn Leu Asn Gln Val  
1 5

<210> 72  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 72

Ser Leu Lys Ile Asn Leu Asn Tyr Ala  
1 5

<210> 73  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 73

Lys Thr Pro Asp Glu Ala Ala Ser Leu  
1 5

<210> 74  
<211> 9  
<212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 74

Ala Thr Cys Gly Met Lys Val Ser Ile  
1 5

&lt;210&gt; 75

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 75

Leu Ser His Gly Ala Val Ile Glu Val  
1 5

&lt;210&gt; 76

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 76

Glu Ile Ala Met Leu Lys Leu Glu Ile  
1 5

&lt;210&gt; 77

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 77

Ala Glu Leu Gln Met Thr Leu Lys Leu  
1 5

&lt;210&gt; 78

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 78

Val Phe Ala Ala Asp Ile Cys Gly Val  
1 5

&lt;210&gt; 79

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 79

Pro Ala Ile Glu Met Gln Asn Ser Val  
1 5

API-03-03-PCT-US SeqList-61510.ST25

<210> 80  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 80

Glu Ile Phe Asn Tyr Asn Asn His Leu  
1 5

<210> 81  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 81

Ile Leu Lys Glu Lys Asn Ala Glu Leu  
1 5

<210> 82  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 82

Gln Leu Val His Ala His Lys Lys Ala  
1 5

<210> 83  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 83

Asn Ile Gln Asp Ala Gln Lys Arg Thr  
1 5

<210> 84  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 84

Asn Leu Val Asp Val Tyr Gly Asn Met  
1 5

<210> 85  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 85

Lys Cys Thr Ala Leu Met Leu Ala Val

1 5

<210> 86  
<211> 9  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 86

Lys Ile Gin Cys Leu Glu Lys Ala Thr  
1 5

<210> 87  
<211> 9  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 87

Lys Ile Ala Trp Glu Lys Lys Glu Thr  
1 5

<210> 88  
<211> 9  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 88

Ile Ala Trp Glu Lys Lys Glu Asp Thr  
1 5

<210> 89  
<211> 9  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 373

Val Gly Met Leu Leu Gln Gln Asn Val  
1 5

<210> 90  
<211> 9  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 90

Val Lys Thr Gly Cys Val Ala Arg Val  
1 5

<210> 91  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 91

Ala Leu His Tyr Ala Val Tyr Ser Glu  
1 5

<210> 92

<211> 9

<212> PRT

<213> Homo sapiens

<400> 92

Gln Met Lys Lys Lys Phe Cys Val Leu  
1 5

<210> 93

<211> 9

<212> PRT

<213> Homo sapiens

<400> 93

Ala Leu Gln Cys His Gln Glu Ala Cys  
1 5

<210> 94

<211> 9

<212> PRT

<213> Homo sapiens

<400> 94

Ser Glu Gln Ile Val Glu Phe Leu Leu  
1 5

<210> 95

<211> 9

<212> PRT

<213> Homo sapiens

<400> 95

Ala Val Ile Glu Val His Asn Lys Ala  
1 5

<210> 96

<211> 9

<212> PRT

<213> Homo sapiens

<400> 96

Ala Val Thr Cys Gly Phe His His Ile  
1 5

<210> 97

<211> 9

API-03-03-PCT-US SeqList-61510.ST25

<212> PRT  
<213> Homo sapiens

<400> 97

Ala Cys Leu Gln Arg Lys Met Asn Val  
1 5

<210> 98

<211> 9

<212> PRT

<213> Homo sapiens

<400> 98

Ser Leu Val Glu Gly Thr Ser Asp Lys  
1 5

<210> 99

<211> 23

<212> PRT

<213> Homo sapiens

<400> 99

Met Thr Lys Arg Lys Lys Thr Ile Asn Leu Asn Ile Gln Asp Ala Gln  
1 5 10 15

Lys Arg Thr Ala Leu His Trp  
20

<210> 100

<211> 23

<212> PRT

<213> Homo sapiens

<400> 100

Thr Ser Glu Lys Phe Thr Trp Pro Ala Lys Gly Arg Pro Arg Lys Ile  
1 5 10 15

Ala Trp Glu Lys Lys Glu Asp  
20

<210> 101

<211> 23

<212> PRT

<213> Homo sapiens

<400> 101

Asp Glu Ile Leu Pro Ser Glu Ser Lys Gln Lys Asp Tyr Glu Glu Asn  
1 5 10 15

Ser Trp Asp Thr Glu Ser Leu  
20

API-03-03-PCT-US SeqList-61510.ST25

<210> 102  
<211> 23  
<212> PRT  
<213> Homo sapiens

<400> 102

Arg Leu Thr Leu Asn Gln Glu Glu Glu Lys Arg Arg Asn Ala Asp Ile  
1 5 10 15

Leu Asn Glu Lys Ile Arg Glu  
20

<210> 103  
<211> 23  
<212> PRT  
<213> Homo sapiens

<400> 103

Ala Glu Asn Thr Met Leu Thr Ser Lys Leu Lys Glu Lys Gln Asp Lys  
1 5 10 15

Glu Ile Leu Glu Ala Glu Ile  
20

<210> 104  
<211> 23  
<212> PRT  
<213> Homo sapiens

<400> 104

Asn Tyr Asn Asn His Leu Lys Asn Arg Ile Tyr Gln Tyr Glu Lys Glu  
1 5 10 15

Lys Ala Glu Thr Glu Asn Ser  
20

<210> 105  
<211> 16  
<212> PRT  
<213> Homo sapiens

<400> 105

Ser Arg Arg His His Cys Arg Ser Lys Ala Lys Arg Ser Arg His His